



# EXCERPT FROM THE PROCEEDINGS

---

OF THE  
EIGHTH ANNUAL ACQUISITION  
RESEARCH SYMPOSIUM  
WEDNESDAY SESSIONS  
VOLUME I

**The Impact of Economic Austerity on U.S. and European Defense  
Industrial Bases**

Nayantara Hensel, Chief Economist, Department of the Navy

**Published: 30 April 2011**

Approved for public release; distribution unlimited.

Prepared for the Naval Postgraduate School, Monterey, California 93943

Disclaimer: The views represented in this report are those of the authors and do not reflect the official policy position of the Navy, the Department of Defense, or the Federal Government.



ACQUISITION RESEARCH PROGRAM  
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY  
NAVAL POSTGRADUATE SCHOOL

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>APR 2011</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2011 to 00-00-2011</b>	
4. TITLE AND SUBTITLE <b>The Impact of Economic Austerity on U.S. and European Defense Industrial Bases</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Department of the Nav, Washington, DC, 20301</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>Presented at the Naval Postgraduate School's 8th Annual Acquisition Research Symposium, 10-12 May 2011, Seaside, CA.</b>					
14. ABSTRACT <b>The defense industry, both in the U.S. and Europe, has witnessed significant consolidation since the end of the Cold War. The question is whether defense industry consolidation has led to greater efficiencies, lower prices, and more innovation, or whether it has led to greater abuse of market power is a crucial issue. A second issue which is becoming more important in an increasingly globalized economy is whether joint ventures and alliances between U.S. companies and foreign companies are likely to be successful because the military forces of nationstates around the globe have been coalescing in the new millennium against a variety of global security threats, including the threat of terrorism. A third issue relates to whether the consolidation of defense contractors in Europe has led to more innovative products and lower costs. The purpose of this research is to examine the patterns in joint ventures, alliances, and mergers in Europe, in the U.S., and between U.S. companies and European companies.</b>					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>8</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

The research presented at the symposium was supported by the Acquisition Chair of the Graduate School of Business & Public Policy at the Naval Postgraduate School.

**To request Defense Acquisition Research or to become a research sponsor, please contact:**

NPS Acquisition Research Program  
Attn: James B. Greene, RADM, USN, (Ret.)  
Acquisition Chair  
Graduate School of Business and Public Policy  
Naval Postgraduate School  
555 Dyer Road, Room 332  
Monterey, CA 93943-5103  
Tel: (831) 656-2092  
Fax: (831) 656-2253  
E-mail: [jbgreene@nps.edu](mailto:jbgreene@nps.edu)

Copies of the Acquisition Sponsored Research Reports may be printed from our website  
[www.acquisitionresearch.net](http://www.acquisitionresearch.net)



ACQUISITION RESEARCH PROGRAM  
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY  
NAVAL POSTGRADUATE SCHOOL

## Preface & Acknowledgements

---

During his internship with the Graduate School of Business & Public Policy in June 2010, U.S. Air Force Academy Cadet Chase Lane surveyed the activities of the Naval Postgraduate School's Acquisition Research Program in its first seven years. The sheer volume of research products—almost 600 published papers (e.g., technical reports, journal articles, theses)—indicates the extent to which the depth and breadth of acquisition research has increased during these years. Over 300 authors contributed to these works, which means that the pool of those who have had significant intellectual engagement with acquisition issues has increased substantially. The broad range of research topics includes acquisition reform, defense industry, fielding, contracting, interoperability, organizational behavior, risk management, cost estimating, and many others. Approaches range from conceptual and exploratory studies to develop propositions about various aspects of acquisition, to applied and statistical analyses to test specific hypotheses. Methodologies include case studies, modeling, surveys, and experiments. On the whole, such findings make us both grateful for the ARP's progress to date, and hopeful that this progress in research will lead to substantive improvements in the DoD's acquisition outcomes.

As pragmatists, we of course recognize that such change can only occur to the extent that the potential knowledge wrapped up in these products is put to use and tested to determine its value. We take seriously the pernicious effects of the so-called “theory–practice” gap, which would separate the acquisition scholar from the acquisition practitioner, and relegate the scholar's work to mere academic “shelfware.” Some design features of our program that we believe help avoid these effects include the following: connecting researchers with practitioners on specific projects; requiring researchers to brief sponsors on project findings as a condition of funding award; “pushing” potentially high-impact research reports (e.g., via overnight shipping) to selected practitioners and policy-makers; and most notably, sponsoring this symposium, which we craft intentionally as an opportunity for fruitful, lasting connections between scholars and practitioners.

A former Defense Acquisition Executive, responding to a comment that academic research was not generally useful in acquisition practice, opined, “That's not their [the academics'] problem—it's ours [the practitioners']. They can only perform research; it's up to us to use it.” While we certainly agree with this sentiment, we also recognize that any research, however theoretical, must point to some termination in action; academics have a responsibility to make their work intelligible to practitioners. Thus we continue to seek projects that both comport with solid standards of scholarship, and address relevant acquisition issues. These years of experience have shown us the difficulty in attempting to balance these two objectives, but we are convinced that the attempt is absolutely essential if any real improvement is to be realized.

We gratefully acknowledge the ongoing support and leadership of our sponsors, whose foresight and vision have assured the continuing success of the Acquisition Research Program:

- Office of the Under Secretary of Defense (Acquisition, Technology & Logistics)
- Program Executive Officer SHIPS
- Commander, Naval Sea Systems Command
- Army Contracting Command, U.S. Army Materiel Command
- Program Manager, Airborne, Maritime and Fixed Station Joint Tactical Radio System



- Program Executive Officer Integrated Warfare Systems
- Office of the Assistant Secretary of the Air Force (Acquisition)
- Office of the Assistant Secretary of the Army (Acquisition, Logistics, & Technology)
- Deputy Assistant Secretary of the Navy (Acquisition & Logistics Management)
- Director, Strategic Systems Programs Office
- Deputy Director, Acquisition Career Management, US Army
- Defense Business Systems Acquisition Executive, Business Transformation Agency
- Office of Procurement and Assistance Management Headquarters, Department of Energy

We also thank the Naval Postgraduate School Foundation and acknowledge its generous contributions in support of this Symposium.

James B. Greene, Jr.  
Rear Admiral, U.S. Navy (Ret.)

Keith F. Snider, PhD  
Associate Professor



## Panel 11 – Economic Dimensions of the Information Technology Age

---

Wednesday, May 11, 2011	
3:30 p.m. – 5:00 p.m.	<p><b>Chair: Douglas A. Brook</b>, Director, Center for Defense Management Research, NPS; former Assistant Secretary of the Navy (Financial Management &amp; Comptroller)</p> <p><b><i>Defense Industry Access to Capital Markets: Wall Street and the Pentagon, An Annotated Brief</i></b></p> <p>David Berteau, Director of the Defense-Industrial Initiatives Group, Roy Levy, Guy Ben-Ari, and Cornelia Moore, Center for Strategic &amp; International Studies</p> <p><b><i>The Impact of Economic Austerity on U.S. and European Defense Industrial Bases</i></b></p> <p>Nayantara Hensel, Chief Economist, Department of the Navy</p> <p><b><i>Creating and Sustaining Effective Partnership Between Government and Industry</i></b></p> <p>Steve Mills and Scott Fouse, DAU, and Allen Green, SAIC, Inc.</p>

**Douglas A. Brook**—Professor of Public Policy and Director of the Center for Defense Management Research in the Graduate School of Business and Public Policy, Naval Postgraduate School. Professor Brook served as Dean of the NPS Business School from 2002 until 2005. Dr. Brook teaches Defense Budgeting and Financial Management Policy. His current research interests focus on budgets, financial reporting, and management reform in the federal government and the Department of Defense. Previously, Professor Brook has served as Assistant Secretary of the Army (Financial Management), Assistant Secretary of the Navy (Financial Management & Comptroller), Acting Under Secretary of Defense (Comptroller), and as Acting Director of the U.S. Office of Personnel Management.



# The Impact of Economic Austerity on U.S. and European Defense Industrial Bases

**Nayantara Hensel**—Chief Economist, Department of the Navy. Dr. Hensel provides economic guidance on growth projections, the federal budget, interest rates, unemployment, exchange rates, inflation, and the financial health of defense contractors, as well as trends in the broader economy and in the defense sector. She received her BA, MA, and PhD from Harvard University, where she graduated magna cum laude and Phi Beta Kappa and specialized in finance and economics. She has taught at the U.S. Naval Postgraduate School's Graduate School of Business and Public Policy, Harvard University, and the Stern School of Business at New York University (NYU). In the private sector, Dr. Hensel previously served as Senior Manager and Chief Economist for Ernst & Young's litigation advisory group, managing economist for the New York City office of the Law and Economics Consulting Group (LECG), and as an economist in the economic consulting arm of Marsh & McLennan. Dr. Hensel has written over 30 articles and research reports. Her recent research has focused on globalization and the U.S. Defense industrial base (the USAF tanker competition), the role of defense mergers in improving weapons systems' cost efficiency, efficiency in IPO auctions relative to traditional processes, the factors impacting discount rates for U.S. Marine Corps personnel, and market structure-specific and firm-specific factors impacting economies of scale and density in European and Japanese banks. She has published in the *International Journal of Managerial Finance*, the *Review of Financial Economics*, *Business Economics*, the *European Financial Management Journal*, the *Journal of Financial Transformation*, and *Harvard Business School Working Knowledge*. She is the Chair of the Financial Roundtable for the National Association of Business Economists (NABE) and is one of 34 elected members to NBEIC, a group composed of the top corporate economists in the U.S. Dr. Hensel has given seminars at a number of institutions and has appeared on CNBC, Bloomberg Radio, and CNNMoney.

## Abstract

The defense industry, both in the U.S. and Europe, has witnessed significant consolidation since the end of the Cold War. The question is whether defense industry consolidation has led to greater efficiencies, lower prices, and more innovation, or whether it has led to greater abuse of market power is a crucial issue. A second issue which is becoming more important in an increasingly globalized economy is whether joint ventures and alliances between U.S. companies and foreign companies are likely to be successful because the military forces of nation-states around the globe have been coalescing in the new millennium against a variety of global security threats, including the threat of terrorism. A third issue relates to whether the consolidation of defense contractors in Europe has led to more innovative products and lower costs. The purpose of this research is to examine the patterns in joint ventures, alliances, and mergers in Europe, in the U.S., and between U.S. companies and European companies.

## Report Summary

The defense industry, both in the U.S. and Europe, has witnessed significant consolidation since the end of the Cold War. The question is whether defense industry consolidation has led to greater efficiencies, lower prices, and more innovation, or whether it has led to greater abuse of market power is a crucial issue. A second issue which is becoming more important in an increasingly globalized economy is whether joint ventures and alliances between U.S. companies and foreign companies are likely to be successful because the military forces of nation-states around the globe have been coalescing in the new millennium against a variety of global security threats, including the threat of terrorism. A third issue relates to whether the consolidation of defense contractors in Europe has led to



more innovative products and lower costs. The purpose of this research is to examine the patterns in joint ventures, alliances, and mergers in Europe, in the U.S., and between U.S. companies and European companies.

The issues examined in this project are particularly important now for several reasons. First, there is some possibility that a new round of defense consolidation could begin in both the U.S. and Europe because, with the financial crisis, defense budgets may tighten, leading to excess capacity (which partially triggered the wave of defense mergers following the Cold War). What is the optimal response of defense contractors? Have European defense mergers been successful in the past? Have U.S. defense mergers been successful in the past? Should European defense contractors merge with U.S. defense contractors as they face a shrinking market on both sides of the Atlantic? Would forming a joint venture or alliance with a foreign competitor be more helpful than a merger? How successful have transatlantic alliances been? To understand the range of responses, it is important to evaluate how previous combinations, either mergers or alliances, between European firms or between U.S. and European firms have succeeded in the past. Second, because nation-states are now faced with a series of increasingly global security threats and because the economy is becoming more and more global, it is important to understand why domestic mergers have succeeded or failed, and whether joint ventures/alliances and mergers between U.S. and foreign defense contractors in the past have succeeded or failed.

This project builds on the proposals submitted by Professor Hensel in 2007, 2008, and 2009. In the AY 2007 project, she examined (a) some of the forces behind the wave of defense industry consolidation in the 1980's and 1990's; (b) the impact of the mergers in creating a more concentrated market in certain defense sub-sectors and in reducing the number of competitors; and (c) the degree to which the defense mergers have led to greater cost efficiencies through lower costs to the DoD for components made by particular contractors and in particular industry sub-sectors. In the AY 2008 project, she continued the research from AY 2007 and also examined in detail the economic and political issues surrounding the competition between Boeing and Northrop Grumman/EADS to supply the USAF with a new fleet of aerial refueling tankers. In the AY 2009 project, she examined a series of case studies on the success and/or failure of alliances and joint ventures formed by U.S. and European defense contractors.

The AY 2009 project builds on this by examining the impact of defense mergers in Europe on the ability of European defense contractors to develop innovative products and to experience cost efficiencies. To what extent was the wave of European defense mergers a reaction to the wave of U.S. defense mergers? Is there evidence to suggest that U.S. consolidation spurred innovation and consolidation among European defense contractors? Did consolidation among European defense contractors, in turn, spur innovation in some segments of the U.S. defense market? What was the impact on the market capitalization of European defense contractors when the markets received the news of their consolidation with another European defense contractor (this would require a statistical event study analysis)? Were there differences across countries in the success of defense consolidation which could be linked to governmental policies and investment conditions? Was consolidation between European defense contractors located in different countries more successful in terms of innovation and costs than consolidation between defense contractors in the same country?

The project would also continue with prior work on: (a) examining the impact of defense mergers on costs per unit output for various contractors and various industry subsectors in the US; (b) examining the trend in joint ventures/alliances between U.S. firms during the merger wave in the defense sector and whether the trend toward alliances





increased or decreased following the failure of the attempts of Northrop and Lockheed to merge in 1998; (c) assessing the frequency and patterns of joint ventures and alliances, as well as acquisitions, of U.S. defense firms and foreign defense firms—did they parallel similar behavior in other industries between U.S. and foreign firms? (d) identifying many of the key U.S.-foreign alliances and acquisitions in the defense sector and evaluating their success in terms of producing innovative systems in a timely fashion, in terms of their ability to obtain subsequent contracts, and in terms of their ability to improve their financial performance (balance sheets, income statements) and market capitalization on the stock market relative to their non-aligned peers; (e) identifying whether many of the U.S. defense contractors from my AY 2007 project who either had substantive cost overruns, were losing defense contracts, or who had not achieved cost efficiencies from their U.S. mergers, were more likely to acquire or form an alliance with a foreign defense contractor; and (f) identifying the stumbling blocks for joint U.S.-foreign defense mergers and alliances and how these manifested themselves in the historical examples.

